OBSERVATIONS

A MONTHLY PUBLICATION OF THE
CHESTER COUNTY ASTRONOMICAL SOCIETY

★President: Edwin Lurcott ★Vice President: Jim Sylvester
★Treasurer: Pete LaFrance ★Secretary: Nancy Armstrong

FEBRUARY 1996
(VOLUME 4, NO. 2)

CCAS February Meeting

DATE: **Tuesday, February 13, 1996**
TIME: 7:30 PM EST
PLACE: Planetarium (room 186)
Schmucker Science Center
West Chester University
LOCATION: South Church St. & Rosedale Ave.
West Chester, PA (see maps)

Parking is available behind Sykes Student Center on the south side of Rosedale Avenue, and behind the Bull Center at the corner of Rosedale Avenue and South High Street.

Following our brief business meeting, our program for the February meeting will be presented by WCU's Dr. John Stolar. After receiving his Ph.D. in Earth Science Education from Penn State, he now teaches courses in Astronomy and Geology at WCU and is the Director of their planetarium. He will be speaking on *Stellar Distance Measuring*. This is a subject or question that often comes up in discussions among amateur astronomers, and in conversations with the general public.

Refreshments are available after the meeting. Weather permitting after the meeting, we can go up to the University observatory on the roof and take a look around with their 12" telescope.

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February CCAS Observing Session

This month's observing session will be on Friday February 23, with a rain/snow/cloud date of Saturday February 24, at Ed Lurcott's home. A map at the back of this newsletter will help you locate his home at 1384 Station Place, West Chester. If you have trouble or need directions, call him at 436-0387. As usual, there will be help available to set up and use your telescopes. All members are invited whether they have a telescope or not. Telescope owners are always glad to share the view through their 'scope. Dress warmly!!

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January CCAS Meeting

Both the January meeting and the observing session had to be canceled due to the "Blizzard of '96." Jim Sylvester agreed to postpone his presentation until our April meeting (hopefully winter will be gone by then!)

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Star Party at East Bradford Elementary

The Math & Science Committee of East Bradford Elementary School has asked the Chester County Astronomical Society to participate in its annual Student Interest Night, where students display their collections and hobbies. This year's event will be held on Monday March 11 from 6:30 to 8:30 p.m., on the school grounds at 820 Frank Road in West Chester. Students and their families will be coming and going during this well-attended event, and with enough 'scopes, we can set up quite an outdoor collection of our own! Directions and a map will be included with next month's *Observations*. For more information or to indicate your willingness to attend, please call Chuck Shorten at (610) 696-3655 or 436-2360. Thanks!

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National Astronomy Day

It's not too early to start thinking about National Astronomy Day on Saturday April 20. In the past we've set up a table with displays at the Exton Mall. If anyone has any ideas, either for displays or even some other type event, please let us know.

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February's Skies

Moon Phases

Full Moon	2/04
Last Quarter	2/12
New Moon	2/18
First Quarter	2/26

The Planets

Venus is the brightest light in the evening sky in February, and is very easy to find after sunset. It's the first "star" you can see after sunset, in the West. Saturn will be nearby during the first part of the month. Venus will continue to move higher in the sky each evening.

Saturn is getting lower in the Southwest after sunset each day as the month progresses. This month we will pass through the plane of the rings (on 2/11) to the sunlit side again. After that they will be getting brighter each night as they start to "open up" from our point of view. But as Saturn moves closer to the horizon, it will get tougher to see much of anything. Check it out anyway, because you won't get to see Saturn "ringless" again until 2009!

Mercury is now in the morning sky, rising before the Sun, but remains low in the sky and hard to see.

Mars is behind the Sun this month.

Uranus and Neptune are close to Mercury this month, especially around 2/11 through 2/16. You may be able to get Neptune and Mercury together in one telescopic field on the morning of 2/11, when they will be 9' apart.

Jupiter is also in the morning sky, in the constellation Sagittarius. On February 15, it will form a pretty picture with a thin crescent Moon close by.

Pluto is in the morning skies, if you know where to look (in the constellation Ophiuchus).

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Space Exploration Notes

Back in December 1974 the spacecraft Pioneer 11 flew past Jupiter, and then went on to Saturn, arriving there 5 years later. It is now over 4 billion miles away, and its on-board power level has dropped too low to continue transmitting data toward Earth (at that distance, messages take 6+ hours to arrive!). So on September 30, 1995 it sent a final message home and switched itself off. Now it is cruising silently outward, bearing a gold plate with greetings for whoever finds it. It will arrive in the Lambda (λ) Aquilae star system 40 million years from now, unless somebody (maybe humans?) picks it up first. When you're looking at λ Aquilae this coming summer, remember that Pioneer 11 is in your line of sight (even though you can't see it, not even with a telescope), and give a wave good-bye to one of mankind's first emissaries to the stars.

You've no doubt heard that the Galileo probe to Jupiter was a big success, and is transmitting data back to Earth again (Jupiter passed behind the sun shortly after Galileo's arrival). The separate atmospheric probe worked perfectly, and the data is already causing revisions in theories about Jupiter's composition and history.

NASA's first "Discovery" mission will lift off from Cape Canaveral on February 16. This will be the Near Earth Asteroid Rendezvous (NEAR) spacecraft, which will intercept and then orbit an asteroid (433 Eros). This will be the first detailed study of an asteroid by a spacecraft. There's a good article on the mission in the March 1996 *Astronomy* magazine.

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Dogs and Stars by Chuck Shorten

Sometimes my friends ask me, "how did you get interested in astronomy?" I have to tell them that my dog got me interested. My *dog* you ask? How can that be? First though, I have to go back a bit...

I'll never forget the most starry night I ever saw as a child - the magnificent darkness of Assateague Island in Maryland, studded with more stars than were ever possible over the urban skies of Alexandria, Virginia where I grew up. I was crabbing with my father during one of our vacation campouts there, and we spent the evening marveling at how bright the stars *could* be. Later, I spent hours trying to make my Dad's 2-inch refractor open up the heavens for me, but it never quite did it. Of course, we knew nothing about optics, mounts, or eyepieces, but we tried.

During graduate school I set out to learn some constellations, after introductions to Orion, Cassiopeia, and the Pleiades by my wife. She gave me my first field guide to the stars and I began reading about the constellations. I spent many hours looking up at the stars, down at the field guide, back up at the stars, then back to the field guide, and so on. I still do that, finding something new each time.

But back to the dogs - my new wife and I got a puppy in our first year of marriage, and each night before bed I'd take our dog out for a walk under the stars. When we lived in the dark sky mountains of southwest Virginia, the closeness of the stars was immediate, and I often had to break the mesmerizing spell of star-gazing to go chasing after

the dog, who never failed to find something more interesting earth-bound. Later, in the still darker skies of South Carolina, we'd make our nightly rounds among the increasingly familiar constellations. Together, we watched comet Halley march through Aquarius in late 1985 as it brightened then faded through 1986. We watched the phases of the moon and learned where the best walking spots were for different horizons.

Our dog moved with us again, this time to Pennsylvania, and still we walked and star-gazed every night. By then, though, I began to notice things that change, such as the position of the constellations during the course of a night, the seasonal variations, and the wandering planets. My son Matthew followed my interest, and one day he announced that with all the gift and allowance money he had saved he wanted to buy a telescope. My wife quickly agreed to match his funds, and our quest for a simple yet effective telescope was on. After attending a star-party we settled on a 10-inch Coulter reflector, and we've been using it together ever since.

Our dog died the summer after getting the telescope, without ever getting a chance to look through it. I don't think she would have been interested, but she did help me to focus my growing interest in astronomy. Without the regularity of nightly, naked-eye and binocular observations, I wouldn't have learned and enjoyed so much about the heavens. I had gotten away from regular evening outings, but now we have a new dog, and I've just rediscovered something: *the stars change every night!* Just a little bit, but enough to make me feel like I'm truly spinning and moving beneath some vast web of suns and cosmic systems. During these cold January mornings with their late sunrises, I enjoy looking up during our morning walks as well, getting a preview of my evening sky just a few months away!

So what did we name our new dog? We ran through a litany of star-names, but to my son the Arabic names didn't seem right. Sirius or Procyon were obvious choices, but our new dog is also a female and they didn't seem fitting. Cassiopeia was too much of a mouthful for a dog. We finally settled on an astronomical name: born in October, our "Libra" became "Libby". You can bet that this spring we'll be looking at her namesake constellation!

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More Doubles! by Ed Lurcott

In the September 1995 issue of *Observations* I presented a list of 25 double and multiple stars taken from *The Finest Deep Sky Objects* compiled and published by James Mullaney and Wallace McCall. The 25 objects ranged from Right Ascension 15h to 24h. Continuing from the same source, a list of 22 more doubles is included with this issue. They range from 0h to 8h of RA.

Try observing these double gems to see if you can detect their colors. Placing them slightly out of focus can help. Some of these may be difficult with small telescopes. But most are relatively easy with moderate size telescopes. A few are quite challenging in even large telescopes. If anyone sees the companion (also called the Pup) of Alpha (α) Canis Major (also called Sirius or the Dog Star), I would like to know because I've never seen it! See how many you can separate with your telescope. A column is provided on the list for your observation. The list is enclosed as a separate sheet.

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First Light by Jim Anderson

The topic this month will be some basic equipment. If you've tried going out at night with a star chart or planisphere to find the constellations, and used a regular white light flashlight, you've probably already discovered something about night vision. When the light levels drop, the pupils in our eyes open wider to let in more light, so we can see better. Also, you lose much of your color perception at the lower light levels of the night. We won't go into all the reasons for this, but it takes 20-30 minutes for your eyes to completely "dark adapt" after going outside. When you click on a white light flashlight, its bright light reverses the process. You may have looked up after being outside for a while, saw some fainter stars, then clicked on your light to check your star chart, then looked back up to see that the stars were no longer there! It was because the flashlight "blasted" away your night vision. Streetlights, car lights, sign lights, etc., can have a similar effect.

Astronomers use red flashlights to read star charts at night, to avoid this problem. The red light does not affect night vision like white light does. The best red light flashlights use red LEDs (Light Emitting Diodes) that give off red light at a specific wavelength only. These types of lights are available from most astronomy supply dealers.

Streetlights can pose a real problem. A simple solution is to do your stargazing from a spot where all streetlights are blocked from view (it would be nice if all streetlights had reflectors that directed the light downward, but that's another story). I live in a third-floor apartment, with a balcony that's great for stargazing. Well, except for the streetlights. I've found that sheets of half-inch thick foam insulation board (available at many home building centers) work well as "light shields" so those streetlights can't shine in my eyes, wrecking my night vision. These are cheap, very light in weight, even a whole 4 ft. by 8 ft. sheet (that's how they are usually sold). They can be easily cut into smaller pieces with a steak knife or a utility knife. Slap some black latex paint on them and they're even better.

The other "basic equipment" I'll cover this month is clothing. Getting cold is a great way to spoil a beautiful night under the stars. Remember that when you're stargazing, you're not moving around much, so your body doesn't generate much extra heat. So always dress "colder" than the expected weather: in fact, dress as though it's going to be 10-20° colder than the forecast temperature. Or make sure you take extra coats, gloves, warm boots, even blankets with you. And don't forget your hat! ("Yes, Mom.") Taking along a thermos of hot cider, tea, or cocoa can also help. Alcoholic beverages do **not** help; in fact, they can hasten hypothermia. So save the "shot of antifreeze" until you're back inside for the night.

I hope this helps some of our beginning members. See you at the next observing session!

Also Available

A free brief overview on getting started in astronomy called *Getting Started In Astronomy* is also available from the CCAS. It can be picked up at a CCAS function, or you can call the newsletter editor to get a copy mailed to you. Suggestions for improving this introduction to our hobby are always welcome.

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Contributing to the Newsletter

Contributions of articles relating to astronomy and space exploration, sketches of observations, maybe observing "challenge lists," etc. are always welcome. If you have a computer, and an Internet connection, you can type it up, attach the file to an email message, and send it to the editor at skywalkr56@aol.com

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Membership Renewals

Check the date printed on the address label of this issue of *Observations*. If you are due to renew, you may send your renewal check made out to our Treasurer, Pete LaFrance. Mail to:

Pete LaFrance
413 Church Rd.
Avondale, PA 19311

Sky & Telescope Magazine Group Rates!

Subscriptions to this excellent periodical are available through the CCAS at $24 per year, a significant savings over newsstand prices ($50.24 per year that way), and even cheaper than individual subscriptions! Make out a check to the Chester County Astronomical Society, note that it's for *Sky & Telescope*, and mail to Pete LaFrance.

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CCAS Membership Information

The present membership rates are as follows:

REGULAR MEMBER
(18 years or older) $20/year
SENIOR MEMBER
(65 years or older) $10/year
STUDENT MEMBER
(full-time college student) .... $ 5/year
JUNIOR MEMBER
(under 18 years old) .....$ 5/year
FAMILY MEMBER
(husband, wife & children) ....$ 30/year

For further information on membership or society activities you may call:

President:	Edwin Lurcott	(610) 436-0387
Vice Pres:	Jim Sylvester	(610) 696-1102
Treasurer:	Pete LaFrance	(610) 268-2616
Secretary:	Nancy Armstrong	(610) 873-7531
Public Rel:	Kathy Cseke	(610) 644-9543
Obs Chm:	Mike Tucker	(610) 584-8236
Newsletter:	Jim Anderson	(610) 993-0261

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